U.S. DEPARTMENT OF ENERGY
GUIDANCE FOR YEAR 2000 PROJECT DOCUMENTATION

1.0   PURPOSE

To establish a standard approach for the approval, storage, retrieval and disposition of records created during the various Year 2000 (Y2K) Initiatives conducted within the Department of Energy (DOE). These initiatives will be performed at many levels in DOE, ranging from Department-wide and Program-wide information systems to those that are used by a single site or organization. The guidance presented in this document will promote the uniform management of Y2K project records, and will help to ensure their future accessibility and proper disposition.

2.0   APPLICABILITY AND AUTHORITY

The guidance provided herein is applicable to all organizations that fund, own, operate or maintain DOE systems, whether operated by DOE or its contractors, that are revised or tested, to ensure that such systems are Y2K compliant. Documentation created by the Y2K projects shall be created as required by other Departmental guidance and managed as federal records as defined in this document. The processing and handling of records is an action required by both the Code of Federal Regulations and the U.S. Code (reference sections 7.1 and 7.2).   The definition of a record is included in Attachment C.

3.0   INTRODUCTION

The Year 2000 Initiatives are sets of policy and planning activities, program modifications, and testing, conducted throughout the Department, to identify and correct Y2K-related risks and vulnerabilities within the Department's information systems. The collection of such information is necessary to document measures taken to address potential problem areas and to determine the effectiveness of Y2K compliance programs. These records will enable DOE to:

a.   establish the scope and cost of Y2K projects;
b.   support litigation related to the failure of one or more DOE systems;
c.   troubleshoot failures of information systems that are possibly linked to Y2K problems;
d.   support independent validation and verification (IV&V), end-to-end testing, system contingency and business continuity planning, and Y2K-related configuration management activities;
e.   re-establish a baseline for later modifications to software applications by providing both before and after program listings and design records; and
f.   protect the legal, financial and other interests of the Government and the people directly affected by the Department's actions.

The collection, organization and storage of the records developed during the Y2K efforts shall be standardized to facilitate this examination.

3.1   Program Criticality

The Y2K problem relates not only to the software created to manage information, but also to the computing infrastructure that supports each location. Prioritization of system modifications is based on the criticality of the system's functions in connection with the performance of the organization's mission. Three categories of criticality have been established as described below.

Category A - Mission-Critical Systems

Any system designated as mission-critical in the DOE mission-critical system database (420 systems as of January 31, 1999). Generally, these systems are those used to protect the environment, or the health and safety of the public, or DOE employees; are needed to meet regulatory requirements; are necessary to support facility security and core business functions of DOE and its contractors; or are those systems whose failure would impact the local community or national standing of DOE. Additionally, safety-related systems at defense facilities shall be documented as if they were mission-critical systems.

Category B - NonMission-Critical Systems

Any system designated as a nonmission-critical system and tracked in the DOE database system (approximately 17,000 as of January 31, 1999).

Category C – Other Systems (Embedded Chips, Work Stations, Telecommunications Systems, Data Exchanges)

Electronic components not associated with computer systems classified in Categories A or B. Included in this category are single purpose computers or work stations controlling facility equipment (for example, elevators or machinery), telecommunications components and data exchange hardware.

3.2 Y2K Project Phases

Technical requirements for the Y2K initiatives are contained in the Y2K Program web site **(http://cio.doe.gov/y2k/y2k.htm)**. The information below is provided to facilitate awareness and understanding of the records management requirements for each phase of the Y2K compliance effort. This information is based on the General Accounting Office's framework for assessing the readiness of Federal agencies to achieve Y2K compliance. Records are created or finalized in each of the phases as shown on the Y2K Records Creation Matrix (Attachment A).

Assessment Phase

The work performed during the Assessment Phase is related to identifying the systems that require renovation, establishing the priorities for the work and determining the scope of the renovation. Typical records created during this phase include documentation of system and priority assessments, risk assessments, estimates of cost and schedule.

Renovation Phase

The majority of the system renovation and internal testing activities will be completed during the Renovation Phase. Records created during this phase relate to the pre- and post-modified status of the systems. Additionally, the plans and procedures used to control the changes made to each system are created and closed during this phase. Y2K-related records that document the management cost and resources allocations during the Project also are created in this phase.

Validation Phase

The work performed during the Validation Phase is required to test the remediation of the system or computing infrastructure. The testing conducted is designed to ensure that the system will continue to function as needed. Typical records include validation plans, test scripts, test results, and implementation of corrective actions.

Implementation Phase

The work performed during the validation phase is required to transition the remediated system to an operational environment. Typical records include implementation plans, identification of tracking partners, acceptance testing and reintroduction into the production environment.

Independent Validation & Verification (IV&V) Phase

The Department requires that the Y2K compliance of each mission-critical system and selected non-mission-critical systems be verified and validated by an external, independent organization. Records related to IV&V test plans, activities, results, and corrective actions must be retained. In addition, records that attest to the completion of the IV&V phase (such as completed IV&V checklists, templates, and assurance of completion forms) also must be retained.

End-to-End Testing Phase

The Department requires that Program, Field Office, and Site locations conduct end-to-end testing for each core business process that contains a mission-critical system and selected non-mission-critical systems. The purpose of the end-to-end test effort is to ensure that a set of interrelated systems (including mission and nonmission-critical systems) will work together in an operational test environment and will operate correctly through Y2K-related events. The following nonmission-critical systems may be included in end-to-end testing activities – computing hardware, operating systems, commercial-off-the-shelf-software, and embedded systems.

Records related to end-to-end test plans, activities, results, and corrective actions must be retained. In addition, records that attest to the completion of the end-to-end testing (such as completed end-to-end testing checklists, templates, and assurance of completion forms) also must be retained.

Mission-Critical System Contingency and Site Business Continuity Planning Phase

The Department requires that a contingency plan be prepared for each mission-critical system and selected non-mission-critical systems. These plans define the decisions, actions, and resources that will be necessary to protect or regain system functionality from a loss or degradation a mission-critical data due to a Y2K-related event. Records pertaining to the preparation and execution of mission-critical system contingency plans must be retained. In addition, records that are related to Y2K "zero day" strategies, plans, and procedures also must be retained.

The Department requires Program, Field Office, and Site Managers to prepare business continuity plans to ensure the timely resumption and continuation of an organization's core business processes and activities in the event of Y2K-related failures. Consideration should be given to maintaining essential documentation in hardcopy formats for use in the event of failure of the electronic systems.

Records that describe and document contingency and continuity plans and activities must be retained, including test activities, results and corrective actions.

Configuration Management Phase

Following the completion of Y2K renovation and implementation activities, the Department requires each mission-critical system and selected nonmission-critical systems, including the set of interrelated systems that support a core business process or activity, to be placed under configuration management. This is intended to control modifications and changes made to the systems. If changes are required, configuration management will assure that the systems will remain Y2K compliant and operational after such changes are made. Records related to the configuration management process, as the process pertains to Y2K, and any modifications to system configurations must be retained, including documentation of change proposals, plans, activities, subsequent Y2K test activities, results, and corrective actions.

4.0   GUIDANCE

4.1   Manage Y2K Project records, throughout the Department, as described in this document.

5.0   RESPONSIBILITY

5.1   System Owner

As the individual directly responsible for the management, operation and maintenance of the mission- or non-mission-critical system, the System Owner, with the assistance of the Records Management Coordinator, is responsible for the creation and assembly of Y2K project records and the transfer of those records to the Local Y2K Project Coordinator.

5.2   Y2K Coordinator

The Y2K Coordinator, with the assistance of the Records Management Coordinator, is responsible for the creation, assembly, and storage of Y2K Project records, and for the transmittal of such records to the appropriate central record management organization.

5.3   Location's Records Management Coordinator

Upon receipt of Y2K records from the Organization Y2K Coordinator, the location's Records Management Coordinator is responsible for the maintenance, retrieval, and disposition of the records in accordance with the applicable site procedures.

5.4   Office of Information, Records & Resource Management (MA-41)

The Office of Information, Records & Resource Management (MA-41) is responsible for the creation and processing of the Y2K Records Disposition Schedule. MA-41 also shall provide assistance to Program, Field Office, and Site Records Managers who have responsibility for oversight of their local records management programs.

6.0   REQUIREMENTS

6.1   Critical Header and Indexing Information

The timely and consistent retrieval of Y2K-related records and information is essential. Therefore, the following header or indexing information should be defined and maintained for each record.

Location   (DOE facility where the system is in use)
Originator   (Organization that created the record)
User Department   (Organization of the principal user of the system)
Date or Date Range   (of record or of the records package, if multiple records are packaged together)
System Name   (the name of the system that is created or modified)
Significance Category   (A or B)
Record Type   (see Attachment B)
Record / Record Package Title or Subject   (user supplied information)

<u>Keywords</u> (summarizing the content, sample keywords are provided in Attachment B)

6.2   Storing the Records

Final Y2K-related records should be packaged at the completion of the Y2K compliance effort for the system.   Y2K-related records should be transferred to the site central storage when the work has been completed or when the records are not actively required within the project office. The retention periods of Y2K Project records may not be the same as those of similar records from other system modifications. These records may be handled separately from the other modification packages by producing duplicate copies or by electronic means if desired to maintain a complete set of Departmental records. Careful consideration must be given to the size of the record packages, to expedite their immediate retrieval. The designation of smaller, more discrete records packages may simplify the effort required to locate specific records. However, the time and labor required to process and index them may increase with a larger number of small packages. Retrieval of the specific record needed will be simplified if the files are organized in a logical manner (such as by system name, phase and date). To ensure the accuracy of stored information, Y2K-related records packages must be updated to include revised or new information. In addition, records must be given special attention to ensure their protection and preservation. Records should be indexed into a database or into an electronic records management system to facilitate storage and retrieval.

6.3   Records

The records to be transferred to central storage are identified in Attachment A to this document and in the Records Disposition Schedule. Prior to the transfer, the owner must arrange the records in a logical order (preferably by system name), and provide the necessary header or index information.

6.4   Y2K Records Disposition Schedule

A Records Disposition Schedule for Y2K-related records (See Attachment D) is attached for review and shall be submitted to National Archives and Records Administration (NARA) for approval by DOE/HQ (MA-41). The disposition of the Y2K-related records shall be in accordance with the Y2K Records Disposition Schedule.

7.0 REFERENCES

7.1   Title 36 C.F.R., Chapter 12 Sub-chapter B (Records Management).

7.2   Title 44 U.S.C. Chapter 29, 31, and 33.

7.3   US DOE Direction for End-to-end Testing for Year 2000 Compliance, February 10, 1999, issued by John M Gilligan, DOE CIO.

7.4   US DOE Direction for the External and Independent Validation and Verification of Year 2000 Compliance, December 23, 1999, issued by John M Gilligan, DOE CIO.

7.5   US DOE Direction for Year 2000 Mission-Critical System Contingency Planning and Business Continuity Planning, January 28, 1999, issued by John M Gilligan, DOE CIO.

ATTACHMENT A
Y2K RECORDS CREATION MATRIX

Record/Document Type	Category A Mission-Critical Systems	Category B NonMission-Critical Systems	Category C Other Systems	Disposition Schedule Item
Assessment Phase				
Listing & Technical Analysis of Information Systems for Core Business Areas	Required	Required	Not Required	1
Year 2000 Risk Assessment	Required	Required	Not Required	1
Prioritization Report for Y2K Systems	Required	Required	Not Required	1
Validation Strategies & Test Plans	Required	Required	Not Required	1
Identification of Data Exchange Partners	Required	Required	Not Required	1
Renovation Phase				
Project Plan & System Requirements	Required	Required	Required	1
Program Listings (before & after modification)	Required	Required	Not Required	2a
Project and Modification Procedures	Required	Required	Not Required	1
Status / Budget / Periodic Reports and Other Project-Level Documents	Required	Required	Not Required	3
Revised System Operating Manuals or Procedures	Required, if changed	Required, if changed	Required, if changed	2a
Validation Phase				
Test & Compliance Plans & Schedules	Required	Required	Not Required	2b
Test Scripts and Results	Required	Required	Required	2b
Implementation				
Implementation Plan and Schedule	Required, if performed	Required, if performed	Not required	2b
Acceptance Testing Results	Required, if performed	Required, if performed	Not required	2b
Confirmation of System Reintroduction into Production Environment	Required	Required	Required	1
Independent Validation & Verification Phase				
IV&V Report and Findings	Required, if performed Waiver if not performed	Required, if performed	Not Required	2c
Assurance of completion	Required, if performed Waiver if	Required, if performed	Not Required	1
Evidence of Corrective Action(s)	Required, if performed	Required, if performed	Not Required	2c

Record/Document Type	Category A Mission-Critical Systems	Category B NonMission-Critical Systems	Category C Other Systems	Disposition Schedule Item
End-to-End Testing Phase				
End-to-End Test Plan and Resource Strategy, and Assurance of Completion Forms	Required Waiver if not performed	Required, if performed	Required, if performed	1
End-to-End Test Outline (template) and Test Procedures, and Results	Required Waiver if not performed	Required, if performed	Required, if performed	2b
Evidence of Corrective Action(s)	Required, if performed	Required, if performed	Required, if performed	2c
Evidence of Compliance to DOE Y2K Policy and Direction, Including End-to-End Testing Checklists, Templates,	Required, if performed	Required, if performed	Required, if performed	2c
Mission-Critical System Contingency and Site Business Continuity Planning Phase				
Records that Describe and Document System-Specific Contingency Plans and Associated Test Plans and Procedures.	Required	Required, if performed	Not required	1
Records that are Related to Y2K "Zero Day" Strategies, Test Activities, and Results,	Required	Required, if performed	Not required	2b
Records that Describe and Document Activities, and Results.	Required	Required, if performed	Not required	2b
Configuration Management Phase				
Documentation of Change Proposals, Change and Modification Plans, Activities, Change Approvals, Subsequent Y2K Test Activities, Results, and Corrective Actions	Required, if performed	Required, if performed	Required, if performed	2a

ATTACHMENT B
Y2K PROJECT RECORDS
STANDARD INDEXING & KEYWORDS

KEYWORDS

Acceptance
Assessment   MM/DD/YYYY
Awareness
Commercial Software
Embedded system
Financial
Hardware
Implementation
Operating System
Operations
Punchlist
Program Listing
Risk Assessment
Technical
Test
V&V
Vendor
Vendor Name

RECORDS

Policy
Planning
Analysis
Risk
Assessment
Project
System
Design
Modification
Documentation
Testing
Procedure
Verification
Validation
Contingency
Review
Report
Evaluation
Administration
Budget
Status
Electronic

DATE FORMAT

LOCATION CODES and NAMES

AL - Albuquerque Operations Office
ALRC - Albany Research Center
KCP - Allied Signal - Kansas City
AMES - Ames Laboratory
ANL - Argonne National Laboratory
BPA - Bonneville Power Administration
BNL - Brookhaven National Laboratory
CH - Chicago Operations Office
DOE-HQ DOE Headquarters (EE, MA, RW), (GTN/FORS)
EML - Environmental Measurements Laboratory
FETC - Federal Energy Training Center
FNAL - Fermi National Accelerator Laboratory
GO - Golden Field Office
GJPO - Grand Junction Project Office
DOE-ID - Idaho Operations Office
INEL - Idaho National Engineering & Environmental Laboratory
LBL - Lawrence Berkeley Laboratory
LLNL - Lawrence Livermore National Laboratory
LANL - Los Alamos National Laboratory
NREL - National Renewable Energy Laboratory
NPTO - National Petroleum Technology Office
NPOSR - Naval Petroleum & Oil Shale Reserve
NE-60 - Naval Reactors Office
NV - Nevada Operations Office
NBL - New Brunswick Laboratory
OAK - Oakland Operations Office
OR - Oak Ridge Operations Office
ORNL - Oak Ridge National Laboratory
OH - Ohio Field Office
OSTI - Office of Scientific & Technical Information
PX - Pantex
PPPL - Princeton Plasma Physics Laboratory
RF - Rocky Flats Field Office
RL - Richland Operations Office
SANDIA - Sandia National Laboratory
SR - Savannah River Operations Office
SEPA - Southeastern Power Administration
SWPA - Southwestern Power Administration
SLAC - Stanford Linear Accelerator Center
SPRPMO - Strategic Petroleum Reserve Project Management Office
WIPP - Waste Isolation Pilot Project
WAPA - Western Area Power Administration
YM - Yucca Mountain Office

ATTACHMENT C
DEFINITIONS

RECORDS

"All books, papers, maps, photographs, machine-readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data in them. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience of reference, and stocks of publications and of processed documents are not included." Also called Federal records, which exclude Presidential records and records of the U.S. Congress (44 U.S.C. 3301).

RECORDS SERIES

File units or documents arranged according to a filing system or kept together because they relate to a particular subject or function, result from the same activity, document a specific kind of transaction, take a particular physical form, or have some other relationship arising out of their creation, receipt, or use, such as restrictions on access and use (36 C.F.R. 1220.14). Generally a Record Series is handled as a unit for disposition purposes**.**

DISPOSITION

Those actions taken, after appraisal by NARA, regarding records no longer needed for the conduct of the regular current business of the agency. 44 U.S.C. 2901(5) defines records disposition as any activity with respect to:
   (a) Disposal of temporary records no longer needed for the conduct of business by destruction or donation to an eligible person or organization outside of Federal custody in accordance with the requirements of part 1228 of 36 C.F.R.;
   (b) Transfer of records to Federal agency storage facilities or records centers;
   (c) Transfer to the National Archives of the United States of records determined to have sufficient historical or other value to warrant continued preservation; or
   (d) Transfer of records from one Federal agency to any other Federal agency in accordance with the requirements of part 1228 of 36 C.F.R.

ATTACHMENT D
RECORDS DISPOSITION SCHEDULE

Year 2000 Project Records

Year 2000 (Y2K) Project records have been created to document the effort of the Department of Energy to ensure that its information systems are Y2K compliant, i.e., able to perform all functions and applications when encountering dates beyond December 31, 1999. The records which document the overall Departmental and Field Office efforts, including design and modification work, are considered to be technologically significant. Some warrant permanent retention.

The record keeping copy of the records identified in Item 1a of the schedule will be collected and maintained for the Department at DOE/HQ. Specific computer system documentation for the creation, modification, maintenance and testing of the systems will be maintained at the location performing the work using the dispositions prescribed below.

This schedule is media neutral. The disposition instructions and authorities contained herein apply to records in all media and formats.

1.   **Y2K POLICY & PLANNING RECORDS**

Records created or approved by the heads of program offices and staff offices, including assistant secretaries, site managers, directors of offices, and their assistants, that provide documentation on system selection criteria; technical analyses of software systems; prioritization report of Y2K systems; Y2K risk assessments; project plans, including system requirements. These records have site-wide or Department-wide applicability.

a.   Record keeping copy transferred to the DOE/HQ Y2K Project Office.

Permanent. Cutoff files at project completion. Maintain on site. Transfer to NARA ten years after cut off.

Dates: 1996 through project completion.
Estimated volume: 10 cubic feet.
Arrangement: By site, thereunder by system name.

a.   Site Y2K Project Office copy maintained for administrative purposes.

Cutoff files at project completion. Maintain on site. Destroy ten years after cut off.

a.   All other policy and planning files.

Cutoff files at project completion. Maintain on site. Destroy ten years after cut off, or when no longer needed; whichever is sooner.

1.   **SYSTEM SPECIFIC DOCUMENTATION**

Records which document the system modifications, testing and verification for each information system in the Y2K projects.

a.   Documentation related to the design and modification of the computer systems including: program listings; modification and design procedures; operating manuals and instructions.

Cutoff files at project completion. Maintain on site. Destroy 10 years after cut off, or when the system or system component is superseded or retired; whichever is later.

a.   Test documentation including: test plans; procedures and results; test scripts; Independent Validation & Verification reports; End-to-End and "Zero Day" testing plans and procedures; and contingency plans.

Cutoff files at project completion. Maintain on site. Destroy 10 years after cut off.

a.   Y2K Project reviews and evaluations, including records of corrective actions; evidence of compliance with DOE Y2K policy and direction.

Cutoff files at project completion. Maintain on site. Destroy 10 years after cut off, or when the system or system component is superseded or retired; whichever is later.

1.   **PROJECT ADMINISTRATIVE RECORDS**

a.   Y2K Project planning and fiscal records including budgets and schedules.

Cutoff files at Project completion. Maintain on site. Destroy 10 years after cut off.

a.   Y2K Project status and administrative records including periodic status reports, correspondence and other local project level documentation.

Cutoff files at Project completion. Maintain on site. Destroy 5 years after cut off.

1.   **ELECTRONIC COPIES**

Electronic copies of records that are created on electronic mail, word processing, or other systems and are used solely to generate a record keeping copy of the records covered in this schedule. Also includes electronic copies of records systems that are maintained for updating, revision or dissemination.

a.   Copies that have no further administrative value after the record keeping copy has been made. Includes copies maintained by individuals in personal files, personal electronic mail directories, or other personal directories on hard disk or network drives, and copies on shared network drives that are used only to produce the record keeping copy.

Destroy/delete within 180 days after the record keeping copy has been produced.

a.   Copies used for dissemination, revision, or updating that are maintained in addition to the record keeping copy.

Destroy/delete when dissemination, revision or updating is completed.